

CONTACT INFORMATION	Fermi National Accelerator Laboratory Pine St & Kirk Rd, PO Box 500, Batavia IL 60510 http://home.fnal.gov/~marcelle	630 840 8337 (voice) 630 840 8274 (fax) marcelle@fnal.gov
EDUCATION	University of São Paulo, São Paulo, Brazil PhD, Astrophysics MSc, Astrophysics Federal University of Espírito Santo, Vitória, Brazil BSc, Physics	Aug 2006 - Sep 2010 Aug 2004 - Jul 2006 Mar 2000 - May 2004
RESEARCH EXPERIENCE	Fermi National Accelerator Laboratory, Batavia IL Postdoctoral Researcher Performing, as participant of the Dark Energy Survey (DES) experiment galaxy cluster cosmology analysis on simulated data photometric calibration framework development integration tests and commissioning of the DES camera (DECam) Working, using the Sloan Digital Sky Survey (SDSS) Coadd data, on galaxy cluster cosmology analysis cosmic shear cosmology analysis weak lensing cluster tomography measurement Guest Scientist Performed, using the SDSS Coadd data preliminary cosmic shear analysis studies of systematics and photometric calibration errors Determined, using the DES simulated data the selection function of the Voronoi Tessellation cluster finder Contributed to several related projects including weak lensing mass estimates for 3000 nearby clusters discovery of 7 new strong lensing systems at $0.66 < z < 2.94$ first observations of the comet P/2010 A2 (LINEAR) Visiting Scientist Performed, using the SDSS Coadd data galaxy shape measurements photometric redshift measurements Developed, in the DES clusters group a Voronoi Tessellation cluster finder algorithm Contributed to related projects including weak lensing mass estimates for 200 nearby clusters	since October 2010 Mar 2009 - Jun 2010 Mar 2008 - Feb 2009
FELLOWSHIPS	National Counsel of Technological and Scientific Development, Brazil Graduate Research International Fellowship Graduate Research Fellowship The State of São Paulo Research Foundation, Brazil Graduate Research Fellowship National Counsel of Technological and Scientific Development, Brazil Undergraduate Research Scholarship	Mar 2008 - Feb 2009 Aug 2006 - Feb 2008 Aug 2004 - Jul 2006 Aug 2001 - May 2004

CONFERENCES	TIPP 2011, Chicago IL	Jun 9-14 2011
	Talk: <i>The Dark Energy Camera integration tests on telescope simulator</i>	
	Proceedings: Physics Procedia, in prep.	
	43rd Fermilab Annual Users Meeting, Batavia IL	Jun 2-3 2010
	Talk: <i>Observational Cosmology Program at Fermilab</i>	
	3rd Biennial Leopoldina Conference, Munich, Germany	Oct 7-11 2008
SEMINARS	Poster: <i>Cosmography with Galaxy Clusters</i>	
	ICHEP08, Philadelphia PA	Jul 29 - Aug 5 2008
	Poster: <i>Cosmography with Galaxy Clusters</i>	
	Proceedings: arXiv: 0810.3689	
	Conference: 100 years of Relativity, São Paulo, Brazil	Aug 22-24 2005
	Talk: <i>Primordial gravitational waves in a Dark Energy dominated Universe</i>	
	Proceedings: Brazilian Journal of Physics 35, 1191 (2005)	
	Conference: Fields in the Universe, Angra dos Reis, Brazil	Nov 22-30 2004
	Poster: <i>Modeling the spectrum of gravitational waves in the primordial Universe</i>	
	Proceedings: AIP Conf. Proceedings 784, 800 (2005); arXiv:gr-qc/0504032	
SUMMER SCHOOLS	Physics Department Seminar, Federal University of Espirito Santo at Sao Mateus, Brazil	Apr 2011
	<i>Cosmology in the Dark Energy Survey Era</i>	
	Physics Department Seminar, University of Texas at El Paso,	Apr 2011
	<i>Cosmology in the Dark Energy Survey Era</i>	
	Kavli Institute for Particle Astrophysics and Cosmology, SLAC National Accelerator Laboratory	Feb 2010
	<i>Galaxy cluster analysis in the SDSS Coadd and DES</i>	
	Center of Cosmology and Astroparticle Physics, Ohio State University	Feb 2010
	<i>Galaxy cluster analysis in the SDSS Coadd</i>	
	Physics department, University of Michigan	Feb 2010
	<i>Galaxy cluster analysis in the SDSS Coadd and DES</i>	
	Fermi Center for Particle Astrophysics, Fermi National Accelerator Laboratory	Jan 2010
	<i>Galaxy cluster analysis in the SDSS Coadd and DES</i>	
	Physics department, University of Michigan	Jul 2009
	<i>Gearing up for cosmological constraints from deep galaxy cluster samples</i>	
	Physics department, University of California at Davis	Jan 2009
	<i>Galaxy clusters and Dark Energy</i>	
	Physics department, Federal University of Espirito Santo, Brazil	Feb 2008
	<i>Cosmology with galaxy clusters</i>	
	Astrophysics graduate students seminars, University of São Paulo, Brazil	Aug 2007
	<i>Fisher Matrices in Cosmology</i>	
	The Onassis Foundation Lectures in Physics	Jun 30 - Jul 4 2008
	<i>Cosmology: an astrophysical perspective</i> , Heraklion, Crete, Greece	
	1st Annual School of the European Network "UniverseNet"	Sep 24-29 2007
	<i>The Origin of the Universe</i> , Mytilini, Lesbos, Greece	

Student Talk: *Cosmography with galaxy clusters: shedding light on dark energy*

Advanced Course of the National Institute for Space Research
A Roadmap for Cosmology, São José dos Campos, Brazil

Sep 9-14 2005

TEACHING
EXPERIENCE

University of São Paulo, São Paulo, Brazil

Teaching Assistant

Jan - Dec 2005

Fundamentals of Astronomy and Astrophysics
Introduction to Astronomy

OUTREACH
EXPERIENCE

Fermi National Accelerator Laboratory, Batavia IL

Supervised undergraduate summer student: weak lensing analysis Jul 2009

Informal talks to high-school students visiting Fermilab Apr, Oct 2009

Supervised high-school student: weak lensing analysis Mar 2008 - Jul 2009

Federal University of Espírito Santo, Vitória, Brazil

Organization of the Annual Physics Fair

Aug 2000 - Jul 2003

SELECTED
PUBLICATIONS

Refereed Journal Articles

1. **Soares-Santos, M.**, de Carvalho, R. R., Annis, J., La Barbera, F., Gal, R., Lopes, P. A. A., Wechsler, R., Busha, M., Gerke, B. (2011) *The Voronoi Tessellation Cluster Finder in 2+1 Dimensions*. The Astrophysical Journal 727, 45.
2. Kubo, J., Allam, S., Drabek, E., Lin, H., Tucker, D., Buckley-Geer, E., Diehl, T., **Soares-Santos, M.**, Hao, J., Annis, J., Frieman, J., Wiesner, M., West, A., Kubik, D., Annis, J., Frieman, J. (2010) *The Sloan Bright Arcs Survey : Discovery of Seven New Strongly Lensed Galaxies from $z = 0.66 - 2.94$* . The Astrophysical Journal Letters, 724, L137.
3. Kubo, J., Annis, J., Hardin, F., Junker, T., Kubik, D., Lawhorn, K., Lin, H., Reis, R., Seo, H. (2009) **Soares-Santos, M.**, Stebbins, A. *The Sloan nearby cluster weak lensing survey*. The Astrophysical Journal Letters 702, 110.
4. La Barbera, F., de Carvalho, R. R., Kohl-Moreira, J. L., Gal, R. R., **Soares-Santos, M.**, Capaccioli, M., Santos, R., Sant'Anna, N. (2008) *2DPHOT: a multi-purpose environment for the two-dimensional analysis of wide-field images*. Publications of the Astronomical Society of the Pacific, 120, 868.
5. Fabris, J., Gonçalves, S., **Soares-Santos, M.** (2004) *Gravitational Waves in the Generalized Chaplygin Gas Model* General Relativity and Gravitation 36, 2559